



MEMORANDUM

From the UTC Legal/Regulatory Department

Re: Licensee Obligations under FCC Narrowbanding Requirements

Date: September, 2008

The purpose of this memorandum is to outline and explain the obligations of UTC core member utilities operating private land mobile radio (PLMR) systems in the 150-512 MHz frequency bands. ***Pursuant to Federal Communications Commission (FCC) decisions in rulemaking proceedings (PR Docket No. 92-235, WT Docket No. 99-87), all PLMR licensees in these bands must migrate from 25 kHz to 12.5 kHz operations or the equivalent in efficiency. Such transition must be completed by January 1, 2013, with an interim deadline of January 1, 2011. Failure to do so will result in a loss of license to operate.*** The so-called "narrowbanding" requirement has a long history.

PLMR History

Many UTC members have operated a PLMR system for decades, using frequencies in the 150 MHz or 450 MHz frequency bands. These frequencies generally are used for communications between dispatch centers and field crews, as well as for truck-to-truck communications. Increasingly, they also are used for fairly slow-speed mobile data operations. Other, fixed-data systems in the PLMR frequency bands are used as control networks; they operate on a secondary, non-interfering basis but also must comply with the narrowbanding requirements. All of these systems are considered mission-critical and vital to the reliability and safety of utility operations and personnel.

Narrowbanding Mandate Background

Use of the 150-512 MHz frequency bands for private wireless systems goes back several decades. By the late 1980s, there were twenty separate private radio services – including the Power Radio Service for utilities – each with assigned channels for use by particular industries. Since use of these bands is shared (i.e., multiple licensees can be authorized on the same frequency in the same area with a "listen before talk" requirement), some frequencies were becoming increasingly congested, while others went mostly unused. Private wireless representatives, including UTC, began discussions of how to use scarce spectrum more efficiently, and the FCC's then-Private Radio Bureau launched a rulemaking proceeding (PR Docket No. 92-235) to make necessary changes.

A decision in this proceeding in 1995 "refarmed" the PLMR bands, creating narrower assignable channels in between the existing 25 kHz center frequencies. Over time, the

FCC expected licensees to migrate, first to 12.5 kHz operation, then eventually to 6.25 kHz systems. This migration was designed to reduce congestion and enable much more use of the most popular PLMR bands. There was no mandate for licensees to migrate at that time; instead, the FCC only required equipment manufacturers to make 12.5 kHz-capable devices. They were not required to stop producing 25 kHz equipment lines, and licensees were not prohibited from continuing to use, and expand, their 25 kHz systems. In addition, the FCC in 1997 consolidated the various service pools into two: the Industrial/Business (I/B) pool (where most UTC members fall) and the Public Safety (PS) pool, whose eligibles include state local governments and therefore, some utilities.

By the early 2000s, however, it was clear that “refarming” only through the advent of new equipment was not successful. While many new 12.5 kHz systems were licensed on the interstitial channels, most incumbent licensees retained 25 kHz operations. In a new proceeding (WT Docket No. 99-87), the FCC moved to mandate migration to more efficient operation. The initial decision came in 2003; after slight revisions, the current framework was finalized in 2004.

Narrowbanding Requirements

Final decisions concerning narrowbanding came at the end of 2004, in the FCC's *Third Memorandum Opinion and Order* in Docket No. 99-87. Major decisions in the 3rd MO&O include:

- Both I/B and PS pool licensees will be required to migrate to 12.5 kHz technology by January 1, 2013, or to a technology that achieves the equivalent of one channel per 12.5 kHz bandwidth for voice or 4800 bps per 6.25 kHz for data if the bandwidth for transmissions is greater than 12.5 kHz (in other words, licensees may continue to use wider channels if their equipment is upgraded to more efficient technology that meets the equivalent of narrowbanding).
- Applications for new 25 kHz stations or modifications that expand the contour of existing 25 kHz stations will not be accepted after January 1, 2011. After that date, such applications will be accepted only to the extent that equipment meets the spectrum efficiency standard of one channel per 12.5 kHz of bandwidth (voice) or 4800 bps per 6.25 kHz (data). The same test will be applied to any manufacture or import of equipment operating on bandwidth up to 25 kHz after January 1, 2011.
- An efficiency equivalent was reinstated for new certifications of equipment, so that application for certification can be made if the equipment operates on 25 kHz, but provides efficiency of one voice channel per 6.25 kHz or 4800 bps of data per 6.25 kHz. This requirement directly impacts manufacturers rather than users, but emphasizes the FCC's determination to see greater efficiency in the PLMR bands.

- Paging-only channels in the PLMR bands are exempted from narrowbanding requirements.

The Commission states that retaining a lengthier transition time should permit operators to have maximum flexibility to maintain existing systems without delaying significantly their overall migration. It also warns that, ***“because the Commission’s Rules already require all new 25 kHz equipment certified since 1997 to be capable of operating at 12.5 kHz, parties that acquire 25 KHz equipment between now and the final migration date will have little basis for claiming or needing waiver relief, since the conversion process would not be either technically difficult or prohibitively expensive.”*** Thus, there is very little chance that the FCC will grant any kind of extension of the 2011 or 2013 deadline: licensees have had many years to prepare for this.

License Status Post-Deadline

Frequency coordinators, including UTC, have asked the FCC for clarification on minor issues that will help us determine when licensees have complied with narrowbanding requirements (for example, licensees will have to modify their licenses to show narrower emission designators). Given the hundreds of thousands of licensees on the 150-512 MHz PLMR bands, individual license checks will not be possible. ***Therefore, the FCC has stated that non-compliant licenses will automatically cancel after the January 1, 2013 deadline.*** Thus, any system that is not listed as compliant in the FCC’s database simply will no longer have a license to operate on any 150-512 MHz frequency following that date; any continued use will be illegal and subject to fines that start at \$1000 per day, per callsign. Licenses should be modified as equipment and operations are upgraded; frequency coordinators such as UTC are working to make this process as simple as possible. Further, frequencies from cancelled licenses will be available for use by other licensees. UTC members should note that the demand for frequencies nearly ensures that other licensees will be watching the database and will apply immediately for cancelled channels, making them unavailable for current licensees to reacquire.

Further Narrowbanding

It should be noted that this proceeding is not completed: the FCC continues to examine the issue of whether and how to mandate migration to the 6.25 kHz bandwidth also envisioned in 1995. UTC’s position is that such a mandate should not occur; licensees should be allowed to improve their system efficiency as needed through technology upgrades – rather than moving to specific channel widths -- following the current migration deadline. However, whether through another narrowbanding mandate or stricter efficiency standards, the FCC is likely to look at these bands again in the future.

What other utilities are doing

Hundreds of UTC members, among hundreds of thousands of PLMR licensees, are affected by the narrowbanding mandate. Many utilities, given the necessary capital

expenditure, are taking the opportunity to examine their choices in the various PLMR frequency bands or through less traditional spectrum sources, such as leasing or purchase. These radio systems are critical to utility operations, both in routine and emergency situations; commercial carrier solutions generally are not considered reliable options because of their lack of coverage and reliability.

There is no question that narrowbanding is a major undertaking. UTC Spectrum Services is available to help licensees, and UTC's Legal/Regulatory Department is more than happy to answer additional questions. However, due to the length of time this matter has been pending, ***licensees cannot expect flexibility or any kind of exemption from the Commission.*** And, UTC has repeatedly urged its members to plan this process well in advance for another reason: equipment will be in short supply from manufacturers as the deadline approaches. We recommend strongly that you undertake narrowbanding of your critical VHF or UHF radio networks as soon as possible. UTC also may be able to help utilities consider their alternatives based on our deep understanding of utility needs, but this also should be undertaken very soon.

Utilities Telecom Council

UTC is a non-profit trade association, headquartered in Washington, D.C., representing the telecommunications and information technology interests of critical infrastructure industry (CII) entities, particularly electric, gas and water utilities and natural gas pipelines. Its members range from large, multi-state investor-owned utilities, to municipalities and cooperatives serving only a few thousand customers. All of these entities operate private, internal radio systems to support their vital core services, including not only mobile voice and data networks to protect the safety and enhance the efficiency of crews in the field, but advanced wireless metering networks and fixed-service control systems that protect electric, gas and water "grids." UTC serves its several hundred U.S. utility members – and affiliated members in Canada, Europe and South America -- with a full range of services, including advocacy before Congress, the FCC and a growing number of other federal agencies such as the Department of Energy and the Department of Homeland Security. UTC also is an FCC-certified frequency coordinator, charged among other duties with protection of former Power Radio Service PLMR frequencies. UTC was formed in 1948.

If there are any questions, please do not hesitate to contact the UTC Legal/Regulatory Department at 202.833.6805 or legal@utc.org.